THE FLOODS OF 'AY LOGO

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COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF FORESTS AND WATERS

G. ALBERT STEWART, Secretary
CHARLES E. RYDER, Chief Engineer

THE FLOODS OF MAY 1942

IN THE

DELAWARE AND LACKAWANNA RIVER BASINS

Prepared in cooperation with the United States Department of Interior Geological Survey

JOHN W. MANGAN DISTRICT ENGINEER

HARRISBURG 1942



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THE FLOODS OF MAY 1942

IN THE

DELAWARE AND LACKAWANNA RIVER BASINS

During the first three weeks of May 1942, frequent heavy rains were general over the Delaware and Lackawanna River Basins. Particularly heavy storms occurred during the period May 20-23, which culminated in crest stages on most streams approximating or exceeding those of recent history.

On the Schuylkill River at Reading, the flood crest was the third highest recorded since 1757; it was the second highest in 156 years of record on the Lehigh River; and by far the highest known to present generations along the Lackawaxen River. Serious flooding also occurred along the Lackawanna and Upper Delaware tributaries.

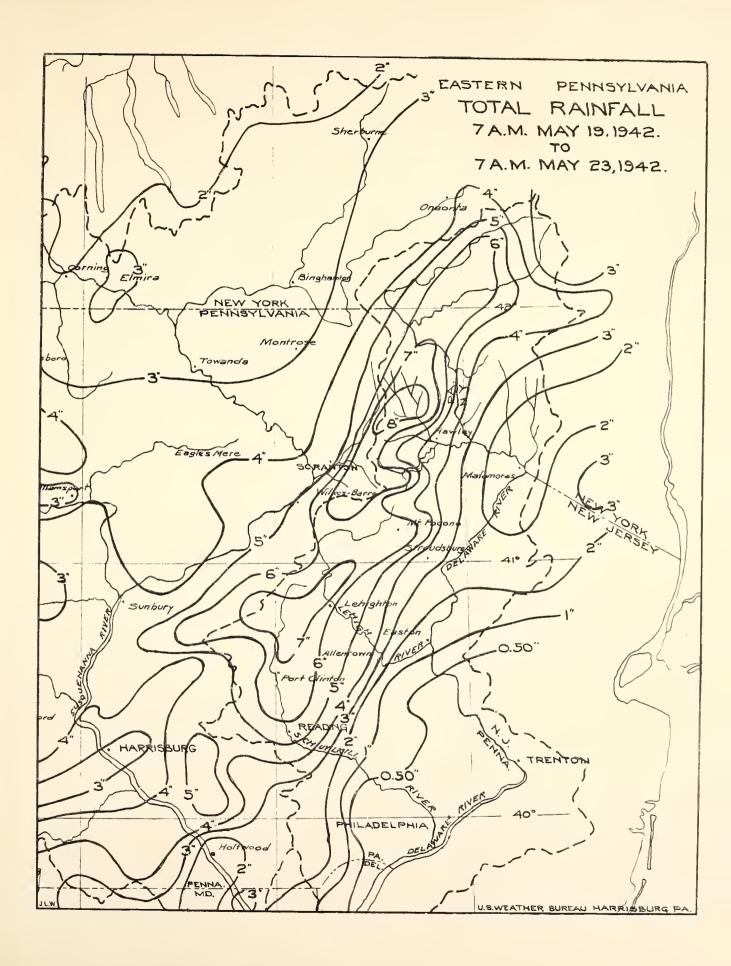
The preliminary estimate of the direct losses attributed to the floods of May 1942 in Pennsylvania has been placed at \$15,000,000. Thirty-three persons lost their lives, 35 bridges were washed out and 22 state highway routes were damaged; 10 small dams failed; there was serious damage to railroads and some municipal water systems were temporarily placed out of commission.

While many sections were seriously inundated by the flood, the greatest devastation occurred in the Lackawaxen River Basin, particularly Honesdale, where the central section of the town was inundated to a depth of 5 or 6 feet. In the Lackawaxen Basin alone, 24 persons were drowned and the damage has been estimated at \$6,000,000.

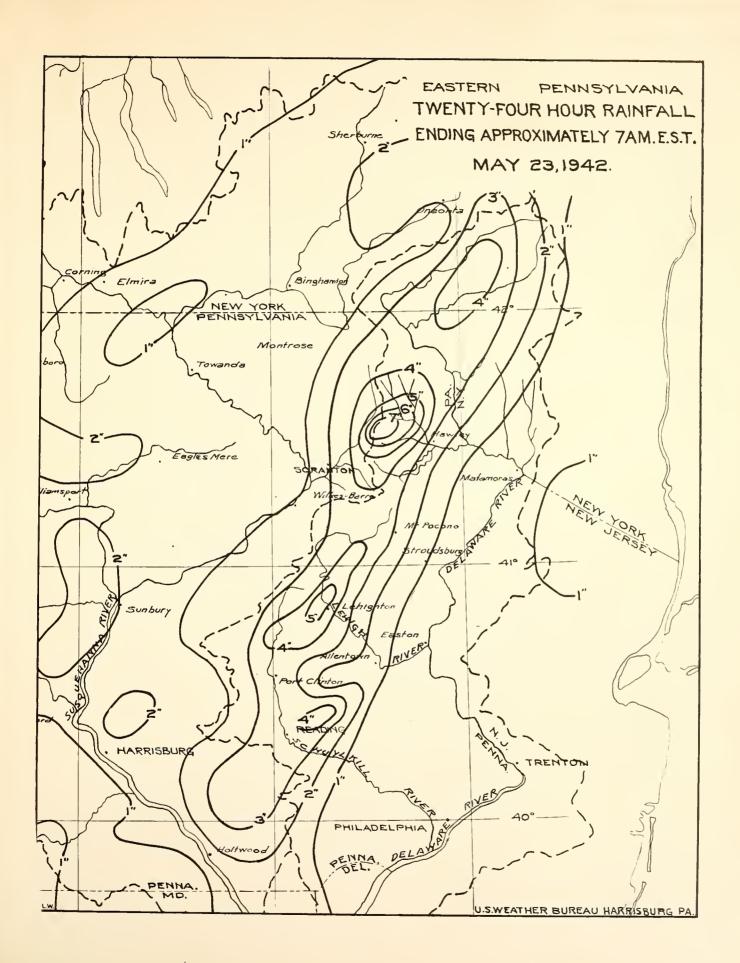
Meteorological analysis of the storm, daily and hourly records of precipitation from all gaging stations in the area and other pertinent information on rainfall has been collected by the Hydro-climatic Unit of the United States Weather Bureau in cooperation with the United States Army Engineers and the United States Department of Agriculture. The data are accessible at the United States Weather Bureau offices at

Albany, N. Y. and Harrisburg, Pa., and are available to cooperating parties in a special publication of this organization.

The maps of precipitation in this report were furnished by the United States Weather Bureau, Harrisburg, Pennsylvania.









FLOOD DISCHARGES

It is worthy of note that, although records indicate rainfall of as much as five to seven inches falling on May 22nd over some of the flood area, the maximum run-off rate was well below rates which occurred during past floods in other sections of Pennsylvania. A large portion of the area where the heaviest rainfall occurred is glacial, containing numerous lakes and ponds, so that a considerable portion of the rainfall was absorbed and the run-off retarded due to storage. In making miscellaneous spillway determinations of flood flow, the absence of recording gages on the dams, in most instances, prevented an accurate analysis of the relation between storage and run-off rates.

The results of the determination of the maximum discharges reached at regular gaging stations, at dams, and at miscellaneous points are presented in tabular form and in the diagram. In most instances, regular gaging stations in the Delaware River Basin in Pennsylvania and New York are listed regardless of whether flood stage was reached. They not only summarize pertinent information on the flood of May 1942, but also give, for comparative purposes, similar data for the greatest previously recorded flood. At regular gaging stations, where ratings were defined by current-meter measurements, the discharges are shown with their corresponding gage heights, which readily separate them from miscellaneous determinations made by other methods in the May 1942 flood.

The diagram shows all May 1942 flood discharge determinations in terms of second-feet per square mile plotted against their corresponding drainage areas. In addition, enveloping curves based upon all flood discharge records relating to Pennsylvania Streams made prior to the May 1942 flood are shown.

The enveloping curve for all drainage basins is the same as the curve developed by Mangan from records given in the special publication "Flood Discharge Records Relating to Pennsylvania Streams, 1938" and shown on pages 36 and 37 of that report.

The Delaware Basin enveloping curve is based on all flood discharge determinations in the Delaware Basin in Pennsylvania and New York and on the main Delaware River prior to the May 1942 flood. It will be noted that only two determinations made in May 1942 exceeded this curve; namely, Lackawaxen River at Hawley, Pa. and Equinunk Creek at Equinunk, Pa.

All flood determinations at locations in New York were furnished by the United States Geological Survey, Albany, New York, in cooperation with the New York City Board of Water Supply. The determinations at the three locations along the Delaware River (except Port Jervis) were furnished by the United States Geological Survey, Trenton, New Jersey, in cooperation with the New Jersey Water Policy Commission. All miscellaneous discharge determinations were analyzed and reviewed by Hollister Johnson of the United States Geological Survey before final values were accepted.

Records at the recently established gaging stations on the East Branch of Delaware River at Downsville, N. Y., Platte Kill at Dunraven, N. Y., and Neversink River at Neversink, N. Y. are not included in the tables.

-J	Metho Dete aten Tenim		Ø	3	AD AD	4	E	B	m		Ω T•6	Ω	Д	AD (Q	Д	Д	0	Д	Д	<u>a</u>	AD .	A A	∢	4	Д	Ω	Ω
942	rge c.s.m		65	88	. 63	64	135	208	206		о 	49	46	60	46	42	30	26	24	29	33	295	88	284	100	34	29	36
22-24, 1942	Discharge c.f.a. c.		2,530	9,510	20,900	22,000	2,120	7,500	8,920		1,480	21,600	36,300	122,000	140,000	147,000	134,000	164,000	161,000	730	1,100	4,160	926	4,940	850	2,750	6,920	2,290
Maximum Mey	Gege height (feat)			10.80	15.70						3.67	14,62	17.18	23.19	17.75	25.70	20.97	27.50	13.35	90.9	4.47	5,49	6.1			7.00	9.26	4.61
Ma	Dey		22	22	23	23					23	23	23	23	23	23	24	24	24	23	23	23	23	23	23	23	23	23
pe	89 С. 9. П.			44	42						81	7.1	68	47	20	63	48	43	43	180	129	121				116	88	98
Maximum previously recorded	Discharge c.f.s. c.			4,710	14,000						13,200	31,400	70,000	000,96	155,000	*217,000	220,000	275,000	295,000	b4,500	4,250	ъ1,700				9,530	21,300	6,200
previous	Gage height (feet)			7.36	11.86						11.74	16.93	23.6	20.5	c23.1	31.1	28.6	35.9	20.7	7.6	7.12	6.2				10.11	15.02	7.87
Meximum	Dete			Mar. 31, 1940	Mer. 31, 1940			-			Sept. 21, 1938	Sept. 22, 1938	Oct. 9, 1903	Mar. 1936	0ct. 10, 1903	0ct. 10, 1903	0ct. 10, 1903	Oct. 10, 1903	Oct. 10, 1903	Sapt.21, 1938	Sapt.21, 1938	Sapt.21, 1938				Aug. 11, 1938	Mar. 18, 1936	Aug. 11, 1938
Dete	esrliest			1940	1936						1937	1934	1903	1936	1841	1841	1781	1781	1781	1937	1937	1937	1941			1937	1913	1937
Drainege	Aree (sq. mi.)		38.8	108	332	345	15.7	36.0	43.2		163	443	783	2,023	3,076	3,469	4,542	6,344	961,9	25.0	33.0	14,1	10.9	17.4	8,5	82	241	63
	County		Susquehenna	Susquehenne	Lackawenne	Luzerna	Leckawanne	Leckawenne	Lackawamae		Delswere	Dalaware	Delawere	Sullivan	Orenge	Sussex	Werren	Warren	Marcer	Deleware	Delavera	Dalewere	Dalawara	Delaware	Dalaware	Sulliven	Deleware	Sulliven
	Location		Stillwater Dem nr.	Forest City, Pa. at Archbald, Pa.	et Old Forge, Pa.	at Duryea, Pa.	Wetres Dam at	Rockdale, Pa. Neabitt Dem nr.	rockdale, Pa. Inteke Dam nr. Moosic, Pe.		at Margaretville, N.Y.	at Herverd, N. Y.	at Fishs Eddy, N. Y.	nr. Barryville, N. Y.	et Port Jervie, N. Y.	at Montague, N. J.	at Belvidere, N. J.	at Riegelsville, N.J.	et Trenton, N. J.	at Arena, N. Y.	nr. Shevertown, N.Y.	nr. Papacton, N. Y.	nr. Pepacton, N. Y.	et Downsville, N. Y.	et Downsville, N. Y.	at Craigla Clair, N.Y.	at Cooka Falls, N. Y.	nr.Livingston Manor,
	Stream,	SUSQUEHANNA BASIN	Leckawanne River	Leckswenna River	Lackawanna River	Lackawanna River	Spring Brook	Spring Brook	Spring Brook	DELAWARE BASIN	E.Br.Delaware River	E.Br. Dalaware River	E.Br.Delawsre River	Dalaware River	Deleware River	Delawara River	Delaware River	Dalaware River	Delaware Rivar	M111 Brook	Tremper K111	Terry Clove Kill	Fall Clove Kill	Downs Brook	Wilson Hollow Brook	Beaver Kill	Banver Kill	Willowemac Creak

d of -Te noit	Det			41 D	90 V	¥ 02	37 D	37 D	52 ACD	30 B	48 D	38 AD	¥ 89	0 88	75 B	31 A	228 A	34 D	72 AD	34 B	91 B	E I	218 B	156 B	167 B	368 B	129 B	112 A	11 A
, 1942	pischarge	, s , s		820 4	30 180	10 220				973 180			50 258	00 328	300	60 361			00 172	438 164	161 06	70 311	157 21		512 16				00 141
y 22-24,	Ď1sc	C.P.S		88	3,320	2,510	5,280	21,900	2,580	6	2,390	2,500	3,350	a18,800	ю 	1,660	5,340	3,760	a50,000	4	2,890	8,770	Ä	1,920	į,	1,910	1,110	7,720	10,600
Maximum May	Gage	(feet)		4.06			7.48	14,52	6,93		7.72	7.21						5.22	20,13										
May	100	Day		233	23	23	233	23	23	233	23	23				23	23	23	23						23	23		-	
ē	rge	G.S.M.		126			63	78	99	528	70	24						26	92										
Maximum praviously recorded	Discharge	c.f.3.		2,500			8,940	46,000	3,280	2,850	3,470	1,580						2,910	27,600										
praviousl	Gage	(feat)		8.7			8.81	20.3	8.5		8.79	5.52	_					5,59	13.9										
Meximum	4	Date		Aug. 26, 1928			Sept. 21, 1938	Oct. 10, 1903	Sapt.21, 1938	July, 1935	Aug. 1, 1941	Dec. 28, 1940						Sept. 1, 1940	Mar. 18, 1936										
Date	record			1924			1937	1903	1937		1940	1940				-		1940	1909				_				-		
Dreinage	Area (sq.mi.)			19,8	18.4	11,4	142	593	49.8	5.4	49.5	99	13.0	57.4	3,98	4.6	23.4	111	290	2.67	15,1	28.2	0.72	12,3	3.06	5,19	8.59	68.9	4 30
	County			Sullivan	Delawere	Delaware	Delewere	Dalaware	Daleware	Delaware	Deleware	Broome	Wayne	Wayne	Wayne	Deleware	Sullivan	Sulliven	Wegne	Weyne	Weyne	Weyne	Wayne	Wayne	Weyne	Wayne	Wayne	Wayne	100
	Location			nr.Livingston Maner,	N. Y. et Peakvilla, N. Y.	at Fishs Eddy, N. Y.	at Dalhi, N. Y.	at Hale Eddy, N. Y.	nr. Dalhi, N. Y.	nr. Delhi, N. Y.	at Cannonaville, N.Y. Delaware	at Deposit, N. Y.	nr. Starlight, Pa.	nr.Equinunk, Pe.	at Lake Como, Pa.	et Long Eddy, N. Y.	nr. Long Eddy, N. Y.	at Calicoon, N. Y.	at Hawley, Pa.	Stanton Pond,	nr. Weymart, Pe. Keen Pond,	nr. Weymart, Fa. et Tennera Falls, Pa.	nr. Tanners Falls, Pa.	nr. Honesdale, Pa.	Brungon Dam	nr. South Canean, Pe. Lake Quinaigemund	nr. South Canaan, Pa.	nr.Newfoundland, Pa.	4
	Stream		DELAWARE BASIN (continued)	Little Baaver Kill	Trout Brook	Fish Creek	W.Br. Dalewere River	W.Br. Delaware River	Dalewere	Kiver Steele Brook	Trout Creek	Oquega Creek	Shehavken Creek	Equinunk Creek	Kinneyville Creak	Hoelihan Brook	Besket Creek	Calicoon Creek	Leckewaxen River			Lackawaxen Kiver W.Br.Dyberry Creek	Unnamed Creek	Carley Brook	Middle Creek	Middle Cresk	Wangum Craek	W.Br. Wallenpaupack	Creek

10 f -Te noi	odd eteC	+		Д	٩	Д	Д	Д	Д	m	υ	E Q	Α.	60	Ω	¥	8 0	4	Q	Q	2 Q	Ω	1.4 D	3 CD	Q	Q	S.	¥	2 0
1942	rga	C. 3.II		42	33	21	16	14	78	22	95	82	92	73	72	9	172	148	48	75	65	38	٦.	0.3	44	32	135	135	169
22-24,	Discharge	c.f.a.		2,830	3,690	4,760	4,880	1,580	281	357	064.6	25,400	29,600	54,400	92,000	7,070	6,010	8,160	5,300	1,250	1,440	2,910	140	63	50,800	60,300	5,810	7,960	3,540
Moximum Mey	රියළිම	(feet)		4.08	6.02	6.58	7.04	4.18					16.51		23.47				7.42	00*9		8,10	2.06	1.09	20.15	12,44	7.94		
Mc		υαγ		23	23	23	23	23	22	22	22	22	22	23	23	23	22		23	23	23	23	23	22	23	24	22	22	
	Вe	C. B. m.		191	109	06	53	33					62		99				23	9		29	113	143	47	7.1	87		
recorded	Discharge	c.f.3.		13,000	12,300	20,000	16,100	3,910					20,000		85,000				2,280	1,000		4,550	11,000	30,000	53,900	135,000	3,740		
previously	වේෂ්ට	(feet)		10.37	11.2	12,61	10.73	7.2					13,34		b24.9				4.85	5.50		10.03	9.11	17.3	21.0	17.0	7.50		
Meximum p	ć	Date		Oct. 23, 1937	July 22, 1938	Aug. 24, 1933	July 22, 1938	July 24, 1920					Mar. 12, 1936		Feb. 28, 1902				July 8, 1941	July 8, 1941		Mar. 15, 1940	Sept.21, 1938	Aug. 23, 1933	Feb. 28, 1902	Oct. 4, 1869	Aug. 24, 1933		
Date	earilest record			1937	1937	1928	1937	1908					1914		1786				1940	1941		1939	1935	1933	1893	1869	1916		
Dreinage	Area (sq.mi.)			68	113	222	302	117	3,61	16.6	103	311	322	742	1,280	118	35.0	55.0	110	16.6	22.2	0.77	97.4	210	1,147	1,893	42.9	58.8	21.0
	County			Sullivan	Sulliven	Sulliven	Orange	Monroe	Weyne	Wayne	Luzerna	Luzerne	Carbon	Carbon	Northampton	Monroe	Luzerna	Carbon	Carbon	Carbon	Carbon	Carbon	Bucks	Bucks	Montgomery	Philadelphia	Schuylkill	Schuylkill	Berks
,	Location			at Halls Wills, N. Y.	at Woodbourns, N. Y.	at Oakland Vallay,N.Y	at Godeffroy, N. Y.	at Shoemakers, Pa.	Harvey Lake	West End Pond	at Stoddartsville, Fa.	at White Heven, Pa.	at Tannery, Pa.	at Bowmenstown, Pa.	at Bathlehem, Pa.	nr. Blekeslae, Pa.	at Bear Creek, Pa.	nr. Weatherly, Pa.	nr. Parryville, Pa.	at Hatchery, Pa.	at Wild Creek	Reservoir, Fa. at Palmerton, Fa.	nr. Piparsville, Pa.	nr. Lenghorne, Pa.	at Pottstown, Pe.	at Philadelphia, Pa,	at Tamaqua, Pa.	nr. Temequa, Pa.	nr. West Lawn, Pa.
i	Stream		DELAWARE BASIN (continued)	Neversink River	Neversink River	Neversink River	Neversink River	Bushkill Crask	Lehigh River	Lehigh River	Lebigh River	Lehigh River	Lehigh River	Lehl gh River	Lehigh River	Tobyhenna Creek	Bear Creek	Black Creek	Pohopoco Creek	Wild Creek	Wild Creek	Aquashicole Creak	Tohickon Creek	Nesheminy Creek	Schuylkill River	Schuylkill River	Little Schuylkill	Little Schuylkill	Cacoosing Creek

FLOOD DISCHARGES MAY 1942

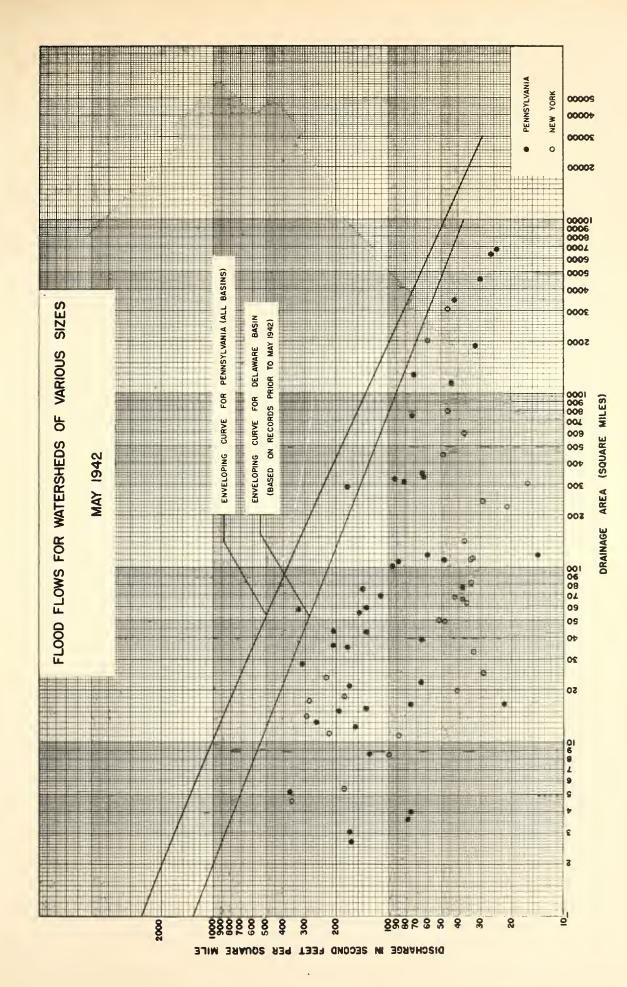
			Dreinege	Dete	Maximum I	reviousl	Maximum previously recorded		Мел	rimum Me	Meximum Mey 22-24, 1942	942	
Stream	Locetion	County	Area	eerliest	Do+	Gege	Discharge	985		Севе	Discharge	88	odti Det ten
			/ • Tmr• her			(feet)	c.f.a. c.s.m.	C.S.D	nay	(feet)	c.f.s.	C. 8 . III.	
DELAWARE BASIN (Continued)													
Perklomen Creek	et Graters Ford, Pa. Montgomery	Montgomery	279	1914	July 9, 1935	18,26	41,200	148	23	3.09	011,1	4.0	Ω
Ridley Creek	et Moylan, Ps.	Delswere	31.9	1931	July 23, 1938	8,16	4,500	141	23	1,16	9,3	5.0	Д
Chester Creek	nr. Chester, Pe.	Delaware	61.1	1931	Aug. 23, 1933	11,48	4,270	20	23	1.00	41	0.7	Ω
Brandywine Creek	at Chadds Ford, Pa.	Dalaware	287	1161	Merch 1920	15.0	30,500	106	83	6.44	2,770	10	А

METHOD OF DETERMINATION

A-Slope-Aree.
B-Flow over Spillwey.
B-Contrected-opening.
D-Rating Curve from Curvent Meter Measurements.
*-Satimate.
*-Satimate exceeds Delewere Besin enveloping curve.
b-At former site and datum.
c-Revised from 23.3 feet on Besis of Information from U. S. Weether Bureau in 1940.

Note.-Symbol D used with enother symbol indicates determination from rating curve extended, besed on other methods of determination.

May 31, 1942





FLOOD HEIGHTS

The tabulations which follow give the crest heights along the Delaware, Lehigh, Schuylkill, Lackawanna and Lackawaxen Rivers not only for the May 1942 flood but, for comparative purposes, all previously known recorded major floods along those rivers.

It should be borne in mind that there is always some doubt as to the accuracy of the early flood heights. In later years, particularly since the turn of the century, gages established on most of our important rivers where daily readings were obtained, with more frequent observations at times of floods. Today, all principal river stations are equipped with water-stage recorders that furnish continuous records of river heights and eliminate all uncertainty as to accuracy.

From the greater number of flood height records listed for the more recent years one might mistakenly infer that floods have been increasing in number if not in magnitude, particularly since the latter part of the 19th century. There is no evidence that floods occurred less frequently in the earlier part of the period covered by the record. A more logical explanation of the predominance of records in recent years is that, in the earlier period, the greatest floods made a more lasting impression and consequently the records have been preserved; whereas those of lesser significance were lost in the intervening years.

River distances in miles are given in the tables for all locations in order that crest elevations may be interpolated for intervening points. Flood profiles may also be developed from the data if desired.

The crest heights are shown as elevations in feet above mean sea level, Sandy Hook Datum. The elevations are based on the latest information available as to the results of adjustments to the precise

level nets. All elevations in any one column were taken on the same structure or group of structures.

At locations where river gages have been maintained, the zero of the gage and the flood stage are given where this information is known.

The Water Supply Commission of Pennsylvania made an exhaustive study of historic floods in Pennsylvania and published the results of their work in Part VIII of the Water Resources Inventory Report in 1914. Many of the flood heights of the earlier floods given in the latter publication were converted into elevations above mean sea level for use in this report.

The United States Engineer Offices of Philadelphia and Wilkes-Barre .

have aided in the preparation of the tabulations by furnishing many

flood elevations obtained in their districts.

August 7, 1942

79.7 70.4 73.0 81.7 17 STOCK TON, N. J. 70.3 67.2 Borden residence NEW HOPE, PA. Highway Bridge 62.5 66.5 64.1 62.0 65.3 67.1 60.4 62.6 63.3 14.3 0.09 LAMBERTYILLE, N.J. Canal Lock 68,3 13,7 64.6 63.4 MEW HOPE, PA. Stockton, N.J.) Union Paper Mill 66.8 63,8 13. NEW HOPE, PA. Canning factory 849.4 53.8 48.6 50.6 8,8 to TITUSVILLE, N. J. Pa. N. J. Steele residence 7.8 846.2 847.4 52.0 46.7 42.7 (Morrisville, 0.4 mi, above highway bridge WASHINGTON CROSSING, No 1. White's Farm 5,2 44.8 SCUDDER'S FALLS, River, Bungalow Colony 5.05 44,4 .t .N SCODDER'S FALLS, Delaware Н18рмал вытако 0.00 3,2 39.1 YARDLEY, PA. Gage 7.77 21.1 0.0 19,8 TRENTON, N.J. Calhoun St. -0.15 eva Tremisd.N 684 *30.3 23.7 O.15 mi. below Celhoun Street MORRISVILLE, PA. 1786, October.
1841, January.
1846, March.
1862, Juna.
1862, Juna.
1865, March.
1878, December.
1878, December.
1902, March.
1903, October.
1904, March.
1913, March.
1924, March.
1924, March.
1924, March.
1925, March.
1935, March.
1935, March.
1937, March. 1935, July...... 1936, January.... 1936, March 12-13. .938, September... initial point Zero of gage Stage

Smith Mill

STOCKTON, N. J.

Highway Bridge

77.7 77.7 79.2 80.1

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8

0.04

18.0

ល

aDate of flood somewhat doubtful, *Affected by 1ce.

Date

Flood

	-2			Eeston Fumping Sta.	ω	0	
	49			EASTON, PA.	194.	190.0	
	9.3			. OD. Milson Bros. Mig. Co.	194.3	189.5	
	49			ERSTON, PR.	19	18	
	48.9	100.21	2.2	EASTON, PA. W. B. Gage	to tere 46.6 & 48.9	185.7 188.1	181.4
	4	10	122,	Old Highway Bridge	Lehigh River en-	188	188
	48.6			o.s mi, below mouth Lehigh River PHILLIPSBURG, N. J. C.R.R. of N. J. Bridge	187.1 191.2 177.5 176.3 175.3 175.3 176.5 180.3	182.9	
	3.5			Keubler Brewery	190.4	4.	
(a)	48			EASTON, PA.	190	186	
Easton, Pa.)	40.0	5,12		වෙනිව ෙන	161.00 1148.1 1148.5 1148.5 1149.3 1150.1		99
	4	125		Highway Bridge 1.	161 148 148 148 143 150	157	155
t 0	33,1	99 .83		MILFORD, PA. Highway Bridge	132.5 121.8 129.3 129.3 130.2 131.2 127.7	130.9	100
, Pa	₁	6		1	132 127 129 130 130 135 125 127	133	122
(Lumberville,	27.9			L.8 mt. below French Town Bridge FRWINA, PA. tsod beog bendrat tsod beog esuod	118,4		
River, (L	27.6			ERWINNA, PA.	110.3 111.6 112.4 117.8		
Deleware R	25.5			erors eghta .t .a .Aq. (UMALSI ERUSAEAT	107.2 106.5 104.0 105.0 110.6	106.2 108.1	
	22.6	-0.48		POINT PLEASANT, PA. Highway Bridge		000	ဖစ
	83	1			101.7	97.0	94
	21.1			LUMBERVILLE, PA. Tinsman's Lumber	92.0 98.1 90.4 90.5 90.7 96.1	92.3 94.3	
				edt evoda .tm S.O Ebita ellivredumul	φ ω σ ω ω φ φ	<u></u>	
	20.0			LUMBERVILLE, PA.	86.8 84.5 86.6	88.9	
	om point	Саде	989	-	1786, October 1841, January 1846, March 1862, June 1865, March 1865, March 1878, December 1892, April 1902, March 1904, March 1907, December 1907, December 1908, March 1918, March 1918, March 1924, March 1924, March 1924, April 1924, April 1924, April 1924, April 1924, April 1935, August	1936, March 12-13 1936, March 18-19 1938, Sentember.	1942, May.
	Miles from initial po	o f	d Stag	Date	Octoo Marcol Marcol Marcol Mer	March March Sente	April May.
	Miles initi	Zero	Flood	H	1786, October. 1841, January. 1846, March. 1857, May. 1862, June. 1865, March 1869, October. 1902, Merch 1902, Merch 1904, March 1904, March 1913, March 1914, March 1923, Merch 1924, March 1924, March 1924, March 1924, March 1934, March 1935, March 1935, March 1935, March 1935, March	1936, March 1936, March 1938, Senter	1940,

ELEVATIONS OF MAJOR FLOODS DELAWARE RIVER BASIN

Delewere River, (Belvidere, N. J. to Equinunk, Pe.)

188.9	:		в¢ліилик, ₽A.		871.9	862,5	863.6	861,1
168.8			CALLICCON, N. Y.		761.8 758.4		753.4	752,9
155.5			и кромавира, и, т.				694.8	0.969
145.0	600,38	433.4	BARRYVILLE, N. Y. 1.6 miles above mouth 1.6 miles above mouth 1.6 miles above mouth (Gage)					620.9
120.0	415,35		Highway Bridge Port Jervis, N. Y. Gege		438.6 *440.8 428.4 430.8	*433.8 423.8 420.0 430.2 430.4 430.4 430.3	431.4 432.9 430.3	430.9
111.8	299,93		MILFORD, PA.		405.4		400,1	394.3 395.6
103.1	286.06		DINGMAN'S FERRY, PA.		384.4		379.6 372.9	374.8 375.5
91.6			BUSHKILL, PA.		357.6		352,9	
80,1		,	SHAWNEE, PA.		326,3			
79.6			BACKWOOG IND				319,9	
77.5			DELAWARE WATER GAP, PA.		321.6		316.3	
72.6			CoLUMBIA, N. J. Weshington & Columbie sts.		296.2			
72.5	199,53		PORTLAND, PA.		296,1		285.3	287.6
72.4			PORTLAND, PA.		295.8		291.7	
62.8	226.43		O.s ml. below Belvinere Bridge Belvinere, n. j. Gege		255.1	244 2445 2445 2465 2465 2430 2430 2430 2430 2430 2430 2430 2430	248.7 251.5 245.7	247.8
Miles from initial point	Zero of Gage	Flood Stage	Date	1786, October 1841, Jenuary 1846, March 1852, June 1855, March 1869, October 1878, December 1895, April	1902, Merch 1903, October 1904, Merch 1907, December	1914 March 1923, Merch 1924, April. 1925, Pebrury. 1935, August. 1934, Merch.	1936, Mer. 12-13. 1936, Mer. 18-19. 1938, September.	1940, April

*Affected by 1ce.

West and East Branches of Delaware Rivar

		Wast Branch			East Brench	
Miles above mouth	1.9	9.7	60	11.1	17.4	51
Zero of Gage		946.34	1,345.97	950.80	1,007.96	1,303.48
Date	HANCOCK, N. Y. R. R. Bridge Junction with East Branch	HALE EDDY, N. Y. Highway Bridge (Gage)	DELHI, N. Y.	FISHS EDDY, N. Y.	HARVARD, N. Y.	MARGARETSVILĻE, N. Y.
1786, October. 1841, Jenuary. 1846, March. 1857, May. 1852, June. 1865, March. 1869, October. 1878, December. 1895, April. 1901, December. 1903, October. 1904, March. 1907, Decembar. 1913, March. 1913, March. 1924, April. 1924, Sept.Oct. 1924, Sept.Oct. 1925, February. 1933, August. 1934, March. 1935, July. 1936, January. 1936, Mar.12-13	·	966.6 961.6 960.9 956.3 962.1 959.0		974.4 968.2 968.2 969.8 971.4		
1936, Mar.18-19 1938, September 1940, March 1942, Mey	907.3	960.6 961.9 961.3 960.9	1,354.8 1,353.9 1,353.4	970.0 969.0 967.8 968.0	1,023.5 1,024.9 1,023.0 1,022.6	1,315.2 1,314.0 1,307.2

Lackawaxen River Dyberry Creek

Miles from Mouth	Location	Merch 1936	Sept. 1938	May 1942
	Lackewaxen River			-l
0.0	Mouth; junction with Delaware River			
4.2	Rowlands; highwey bridge			695.5
13.4	P. P. & L. Co.; hydro-electric plant	828,8	824.4	841.2
16.0	Hewley; recorder gege	882.6	876.6	888.9
16.2	Hawley; Paupack St. & Falls Ave.			891.7
16.3	Hewley; highway bridge; Welwood St.	887.8		893.2
16.7	Hewley; Church St.			896.4
16.9	Mouth of Middle Creek			
17.1	Hewley; Main St. near Erie R. R.			901.6
17.4	West Hawley; Riverside Bridge	900.8	898.0	907.9
20.9	White Mills; highway bridge			932.1
24.79	Mouth of Cerley Brook	960.2	956.4	
25.30	Honesdele; Florence Mills	964.6		972.3
25.55	Honesdala; Fourth St.	970.0	965.4	974.8
25.72	Honesdele; Sixth St.	970.8	966.0	977.6
25.83	Honesdele; Eighth St.	972.3	968.6	979.4
25.98	Honesdale; Court House	972.5		979.6
26.15	Junction with Dyberry Creek			
26.28	Honesdale; Court St. footbridge	977.4	974.0	982.7
26.39	Honesdale; Main Street			984.3
26.66	Honesdale; School	982.6		988.1
27.15	Honesdale; Clark St.	994.4	990.9	999.8
27.45		1,003.9		1,007.8
	Dyberry Creek			
0.00	Junction with Lackawaxen River			
.04	Honesdale; highwey bridge	977.1	971.4	984.1
.31	Honesdele; Fifteenth St.	978.4		984.5
•58	Honesdele; Eighteenth St.	978.6	974.1	985.2
.73	Honesdale; Stenton St.	979.6		985.8
.88	Penne. Dept. of Highways shed	979.5	974.7	985.9
1.83				986.6
2.08	Highway bridge	979.5	975.0	986.8

Note. - Three greatest floods since 1908.

Lehigh River (Bethlehem to Allentown)

5.8		:	.AT , WWOTUELLA	256.4	257.3 258.4	255 255 255 255 255 255 255 255 255 255	260.1
5.2			Below Dem #7 LLENTOWN, PA. Garage		257.5	252.7	256.2
5.8			C.R.R.of N.1.Sta. Jordan Creek. ALLENTOWN, PA. Hamilton St.		257.4 253.5	252 254 250 250 250 250	256.6
0.55			Sure-fit Slip Cover Co. BETHLEHEM, PA. Saquoit Slik Mill		237.3	v 6	238.6
0.35			Hill to Hill Bridge upstream side. BRTHLEHEM, PA. BETHICHENO Graphite		236.7	233.2 233.0 231.2	238.1
0.35			Hill to Hill Bridge down streem side. Brithlenem, PA.	228.8 226.8 233.8 230.8 230.8	231.3 236.3		237.5
0.3			PETHLEHEM, PA.	235.3 234.4	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	237.2
0.15			BETTALEHEM, PA.		236.0		236.9
0.0	210.94	226,9	PETHLEHEM, PA.		d235.8	828.8	236.5
-0.7			BETHLEHEM, PA.		232.7	228.3	253.4
-0.8	208.60		BETTHLEHEM, PA.			227.3	232.1
-1.45			Beth. Steel Co.		228.7	224.3	229.4
Miles from initial point	Zero of Gage	Flood Stage	. Date	1786,October. 1839,January. 1841,January 1850,Sept 1862,June 1869,October	1901, December. 1902, February. 1920, March	۰ ب ۵	1942, May

*Affected by dam failure. d0.1 Mile above New Street Bridge.

Lehigh River (Catasauqua to White Haven)

59,2			WHITE HAVEN, PA.		1,124.0	1,123.9 1,123.9 1,124.0	1,123.9
57.4	1,041.80		TANNERY, PA.			1,054.3 1,054.9 1,055.1	
57.3	1,029.23		TAUNERY, PA. Highway Bridge		1,042,4		1,055.4
37.4			GIEN-ONOKA, PA.		589.8	1	592.1
34.8			MAUCH CHUNK, PA.	541.0 *551.0	535.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	*532.2
31.0	443.9	452.9	Lehighton WEISSPORT, PA. Highway Bridge		464.7	460.8 459.8	464.6
28.3			S# mbd evoda		439 .0 440 .2	435.9 435.4	440.5
23.2			TAICH GAP		388.3 389.9	386.0 385.2	
16,8			TREICHLERS, PA.		341.7 343.1	341.6 340.5 340.5 340.2	
14.4			LAURYS, PA.		326.1	322 3224 3224 66 66	328.1
11.1			evoda .us c.0 Copley Street Eridge NORTHANPTON, PA. Hungerien Hell			289.7	297.3
9°6			CATASAUQUA, PA.		288.6	284.1 283.8 282.9	
Wiles from initial point	Zero of Gage	Flood Stage	Date	1786, October 1839, January 1841, January 1850, Sept 1862, June 1868, October	1901, December. 1902, February. 1920, March 1924, Sept	1933, August 1935, July 1936, Merch 12, 1936, Merch 18,	L942, Mey.

*Affected by dem fellure. aAffected by Mauch Chunk Creek. bDam not since rebuilt. cAffected by ice.

Schuylkill River

			ם בזמופים ו	, ,
	88		Palo Alto Hy. Bridge	
118.1	599,28		POTTSVILLE, PA.	608.1
			Columbia Streat	
113,1			PA. SCHUYLKILL HAVEN,	503.9 508.0
	53	9	R. R. Station	10
99.1	385,53	410.6	PORT CLINTON, PA.	398.3
6			Highway Bridge	8
95.9			. Ач. , эяивидн	353.3
				, n
.7	50	50	Penn St. Bridge	0001001000000404
73.7	188,50	199.50	READING, PA.	203 204.3 204.3 204.3 201.1 201.1 200.1 200.3 200.0 20
				*
4	18		Hanover St. Bridge	0 00,00
52.4	117,81		.A4 , NWOTSTTO4	138.8 137.0 132.7 132.9
ત્ર			Highway Bridge	4 อ ซิสม์ อย
35.2			PHOENIXVILLE, PA.	90.4 96.9 98.8 98.8 98.3 98.3
ત્ય			Деш	4-r v-r
23.2			NORRISTOWN, PA.	68.4 66.1 60.5
20.0			реш	2 06
02			со изн оноск еи , ъъ.	61.7 52.0 57.9
			(Do-notes	
15,5			пеет Мапаушк	50.6 48.0 44.4 44.6 44.6
15			FLAT ROCK DAM	50 44 44 44 44 44
	~		med tmuomrisT	
8.4	5,23		PHILADELPHIA, PA.	22.2 20.0 19.9 19.3
			va vinaiauviina	22 20 119 119
-				1757, July 1848, October 1841, Januery 1850, July 1862, June 1862, June 1894, May 1902, Feb. Mer 1924, March 1920, March 1920, March 1920, March 1935, July 1935, July 1935, July 1935, Mar
outl				
M mx	Gage	98	Φ.	oermbermermermermermermer
Ä	of G	Stage	Dete	ly ly ly ly ly cobe
Miles from Mouth	Zero of	Flood		1757, July 1846, October 1841, January 1850, July 1862, June 1869, October 1894, May 1902, FebMer 1920, March 1924, SeptOct 1933, August 1935, July 1935, July 1935, May
M1	26	F		757 786 841 850 850 868 868 868 868 868 868 868 868 868 86

*Affected by ice.

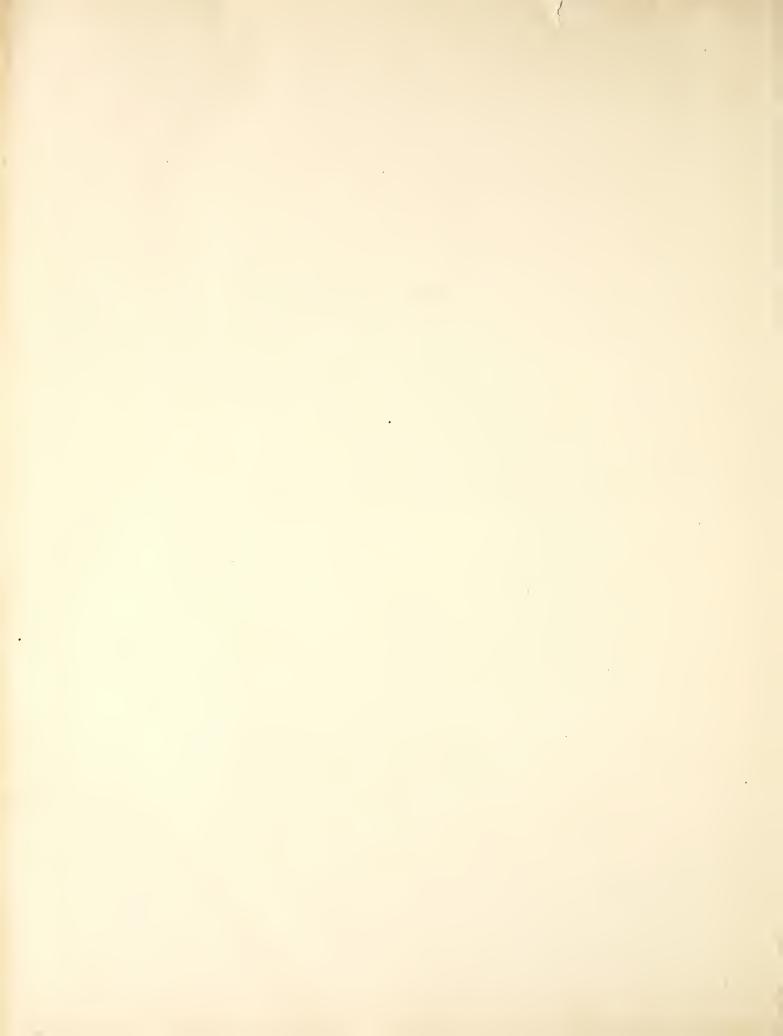
FLOOD ELEVATIONS SUSQUEHANNA RIVER BASIN LACKAWANNA RIVER

Miles from Mouth	Location	March 1940 (feet)	May 1942 (feet)
0.0	Mouth		
.8	Duryea, Stevenson St. Bridge (D.S.)		565,21
3.2	Old Forge (gage); 150 feet above D.L. & W.R.R. bridge	606.94	610.78
3.9	Moosic (gage); River St. Bridge		632.06
10.8	Scranton; Carbon (Olive) St. Bridge; Old U.S.W.B. gage		693.05
11.9	Scranton; Albright St. Bridge; new U.S.W.B. gage	694.75	697.35
17.5	Olyphant (gage); West Lackawanne Street Bridge	766.61	768.38
23.2	Archbeld (gage); half mile above mouth of White Oak Run	896.53	899.97
29.1	Carbondale; D & H R.R. Station		1,046.70
36.1	Forest City (gage); 4.8 miles above mouth of Elk Creek	1,429.02	1,430.64
36.5	Forest City (gage); dam of Scranton-Spring Brook Water Co.		1,472.41

Note .- Flood of March 1936 reached an elevation of 765.31 feet et Olyphent.









4-WIFAPR 11-1974





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Aaron Bldg.

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Pennsylvania Dept of Forests and Waters

The Floods of May 1942

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